

Preliminary Amendment

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Applicant(s):

Serial No.: 10/643,749

Confirmation No.: 4136

Filed: 19 August 2003

For: HARDENABLE ARTICLE AND METHOD OF MANUFACTURING THE SAME**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Original) A method of manufacturing a hardenable dental article, the method comprising:

providing a mold cavity in a shape of a hardenable dental article, wherein the mold cavity comprises an opening;

forcing a hardenable dental material into the mold cavity through the opening;

providing a liner between the hardenable dental material and the mold cavity; and

removing the hardenable dental material and the liner from the mold cavity, wherein the hardenable dental material has the shape of the hardenable dental article.

2. (Original) A method according to claim 1, further comprising locating the liner over the opening of the mold cavity, wherein forcing the hardenable dental material into the mold cavity comprises simultaneously forcing the liner into the mold cavity, wherein both the liner and the hardenable dental material take the shape of the hardenable dental article.

3. (Original) A method according to claim 1, further comprising:

locating the liner over the opening of the mold cavity; and

forcing the liner into the mold cavity before forcing the hardenable dental material into the mold cavity.

4. (Original) A method according to claim 3, wherein forcing the liner into the mold cavity comprises only partially replicating the mold cavity with the liner.

5. (Original) A method according to claim 4, wherein forcing the hardenable dental material into the mold cavity further forces the liner into the mold cavity, wherein both the liner and the

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hardenable dental material take the shape of the hardenable dental article.

6. (Original) A method according to claim 3, wherein forcing the liner into the mold cavity comprises replicating the mold cavity with the liner, wherein the liner takes the shape of the hardenable dental article before forcing the hardenable dental material into the mold cavity.

7. (Original) A method according to claim 1, wherein providing the liner between the hardenable dental material and the mold cavity comprises:

deforming the liner to form a pocket therein; and

locating the hardenable dental material within the pocket in the liner before forcing the hardenable dental material into the mold cavity.

8. (Original) A method according to claim 1, wherein providing the liner between the hardenable dental material and the mold cavity comprises deforming the liner to form a pocket therein by forcing the hardenable dental material into contact with the liner, wherein the hardenable dental material is located within the pocket before forcing the hardenable dental material into the mold cavity.

9. (Original) A method according to claim 1, wherein at least a portion of the liner is retained on the surface of the hardenable dental article after removing the hardenable dental article from the mold cavity.

10. (Original) A method according to claim 9, wherein the liner comprises a film and wherein the method comprises removing the hardenable dental article from the film by deforming the film.

11. (Original) A method according to claim 1, wherein the liner comprises a water soluble polymer.

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12. (Original) A method according to claim 11, wherein at least a portion of the liner is retained on the surface of the hardenable dental article after removing the hardenable dental article from the mold cavity, and further wherein the method comprises removing the hardenable dental article from the liner by contacting the liner with water.

13. (Original) A method according to claim 1, wherein the hardenable dental article comprises a hardenable dental crown.

14. (Original) A packaged hardenable dental article comprising:
a mass of hardenable dental material in the shape of a hardenable dental article, wherein the hardenable dental article comprises a base and outer surfaces extending from the base;
a package cover conforming to and in intimate contact with the outer surfaces of the hardenable dental article, wherein the package cover comprises a polymeric film plastically deformed by the mass of hardenable dental material; and
a package base facing the base of the hardenable dental article;
wherein the package cover and the package base are attached together about a periphery of the base of the hardenable dental article such that the hardenable dental article is contained within the package base and the package cover.

15. (Original) A packaged dental article according to claim 14, wherein the package cover comprises a sacrificial mold body.

16. (Original) A packaged dental article according to claim 14, wherein the polymeric film comprises a water soluble polymer.

17. (Original) A packaged dental article according to claim 14, wherein the package base comprises a film.

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18. (Original) A packaged dental article according to claim 14, wherein the package base and the package cover are attached together by a heat seal bond.

19. (Original) A packaged dental article according to claim 14, wherein the package base and the package cover are adhesively attached together.

20. (Original) A packaged dental article according to claim 14, wherein the hardenable dental article comprises a hardenable dental crown.

21. (Original) A dental article comprising:

a sacrificial mold body comprising a sacrificial mold cavity in the shape of a hardenable dental article, wherein the sacrificial mold body comprises at least one line of weakness formed therein, the at least one line of weakness defining at least two mold sections in the sacrificial mold body; and

a mass of hardenable dental material located within the volume of the sacrificial mold cavity such that the hardenable dental material is in the shape of the hardenable dental article.

22. (Original) A dental article according to claim 21, wherein the at least one line of weakness comprises a line of weakness that bisects the sacrificial mold body such that the separation of that line of weakness separates the sacrificial mold body into halves.

23. (Original) A dental article according to claim 21, wherein the at least one line of weakness comprises a plurality of lines of weakness.

24. (Original) A dental article according to claim 21, wherein the at least one line of weakness defines two or more mold sections separated by the lines of weakness.

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25. (Original) A dental article according to claim 24, wherein each mold section comprises a flange.

26. (Original) A dental article according to claim 21, whercin the sacrificial mold body comprises a water soluble polymer.

27. (Original) A dental article according to claim 21, wherein the hardenable dental article comprises a hardenable dental crown.

28. (Original) A packaged hardenable dental article comprising:

a mass of hardenable dental material in the shape of a hardenable dental article, wherein the hardenable dental article comprises a base and outer surfaces extending from the base;

a package cover conforming to and in intimate contact with the outer surfaces of the hardenable dental article, wherein the package cover comprises a sacrificial mold body comprising a sacrificial mold cavity in the shape of the hardenable dental article, and wherein the sacrificial mold body comprises at least one line of weakness formed therein, the at least one line of weakness defining at least two mold sections in the sacrificial mold body; and

a package base facing the base of the hardenable dental article;

wherein the package cover and the package base are attached together about a periphery of the base of the hardenable dental article such that the hardenable dental article is contained within the package base and the package cover.

29. (Original) A packaged hardenable dental article according to claim 28, wherein the package base is attached to a flange of each of the mold sections.

30. (Original) A packaged hardenable dental article according to claim 28, wherein the package cover comprises a water soluble polymer.

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31. (Original) A packaged hardenable dental article according to claim 28, wherein the package base and the package cover are attached together by a heat seal bond.

32. (Original) A packaged hardenable dental article according to claim 28, wherein the package base and the package cover are adhesively attached together.

33. (Original) A packaged hardenable dental article according to claim 28, wherein at least one line of weakness comprises a plurality of lines of weakness.

34. (Original) A packaged hardenable dental article according to claim 28, wherein each mold section comprises a flange.

35. (Original) A packaged hardenable dental article according to claim 28, wherein the hardenable dental article comprises a hardenable dental crown.

36. (Original) A dental article comprising:

a sacrificial mold body comprising a sacrificial mold cavity in a shape of a hardenable dental article, wherein the sacrificial mold cavity conforms to and is in intimate contact with outer surfaces of the hardenable dental article; and

a mass of hardenable dental material located within the volume of the sacrificial mold cavity such that the hardenable dental material is in the shape of the hardenable dental article.

37. (Original) A dental article according to claim 36, wherein the sacrificial mold body comprises a water soluble polymer.

38. (Original) A dental article according to claim 36, wherein the hardenable dental article comprises a hardenable dental crown.

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39. (Original) A dental article according to claim 36, wherein the sacrificial mold body comprises an exterior shape that conforms to the shape of the hardenable dental article located within the sacrificial mold cavity.

40. (Original) A method of manufacturing a hardenable dental article, the method comprising:

providing a sacrificial mold body comprising a sacrificial mold cavity in a shape of a hardenable dental article, wherein the sacrificial mold body comprises a water soluble polymer; and

forcing a hardenable dental material into the sacrificial mold cavity through the opening, wherein the hardenable dental material takes the shape of the hardenable dental article.

41. (Original) A method according to claim 40, wherein the sacrificial mold body is supported within a support structure when forcing the hardenable dental material into the sacrificial mold cavity.

42. (Original) A method according to claim 40, further comprising removing the hardenable dental article from the sacrificial mold cavity by contacting the sacrificial mold body with water.

43. (Original) A method of manufacturing a hardenable dental article, the method comprising:

providing a sacrificial mold body comprising a sacrificial mold cavity in a shape of the hardenable dental article, wherein the sacrificial mold cavity comprises an opening, and wherein the sacrificial mold body comprises at least one line of weakness formed therein, the at least one line of weakness defining at least two mold cavity sections in the sacrificial mold body; and

forcing a hardenable dental material into the sacrificial mold cavity through the opening, wherein the hardenable dental material takes the shape of the hardenable dental article.

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44. (Original) A method according to claim 43, further comprising removing the hardenable dental article from the sacrificial mold cavity by separating the sacrificial mold body along the at least one line of weakness.

45. (Original) A method according to claim 44, further comprising a flange on one or more of the mold cavity sections, the flange located proximate the opening into the sacrificial mold cavity, and wherein separating the at least one line of weakness comprises grasping the flange of at least one of the mold cavity sections.

46. (New) A dental article according to claim 21, wherein the sacrificial mold cavity is in the shape of a crown, and further wherein the sacrificial mold body comprises a base line of weakness defining a base proximate incisal/occlusal surfaces in the sacrificial mold cavity.

47. (New) A dental article according to claim 46, further comprising a post extending from the base.

48. (New) A dental article according to claim 21, wherein the sacrificial mold body is formed of one or more materials selected from the group consisting of thermoplastic polymers, thermoplastic elastomers, polyethylenes, polypropylenes, polystyrenes, polyesters, and poly(ethylene terephthalate).

49. (New) A method according to claim 46, wherein providing the sacrificial mold body comprises molding the sacrificial mold body before forcing the hardenable dental material into the sacrificial mold cavity.

50. (New) A method according to claim 49, wherein the sacrificial mold cavity is in the shape of a dental crown.

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51. (New) A method according to claim 49, wherein the sacrificial mold body comprises a base line of weakness defining a base proximate incisal/occlusal surfaces in the sacrificial mold cavity.

52. (New) A method according to claim 51, further comprising a post extending from the base.

53. (New) A method according to claim 49, wherein the sacrificial mold body is formed of one or more materials selected from the group consisting of thermoplastic polymers, thermoplastic elastomers, polyethylenes, polypropylenes, polystyrenes, polyesters, and poly(ethylene terephthalate).